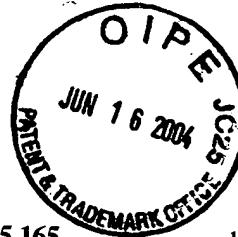


**COPY**



**Wilmer Cutler Pickering Hale and Dorr LLP**  
**1455 Pennsylvania Avenue, NW**  
**Washington, DC 20004**  
**202.942.8400**



Applicant(s): **Joseph Young J. PAIK** Application No.: **10/665,165** 107262.179 US2  
Filing Date: **September 18, 2003** Atty Docket No.: **007734 FPS/MMCS/APC** SMA/lrm  
Entitled: **Feedback Control of a Chemical Mechanical Polishing Process for Multi-Layered Films**

RECEIPT IS ACKNOWLEDGED FOR THE FOLLOWING:

- [X] Information Disclosure Statement
- [X] 26 Pages of Form PTO-1449
- [X] 267 References

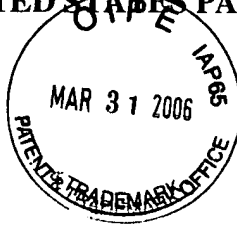
## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

Joseph Young J. PAIK

Serial No. 10/665,165

Filed: September 18, 2003



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Group Art Unit:

Examiner:

For: FEEDBACK CONTROL OF A CHEMICAL MECHANICAL POLISHING PROCESS  
FOR MULTI-LAYERED FILMS

**INFORMATION DISCLOSURE STATEMENT**

Honorable Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In accordance with the provisions of 37 C.F.R. 1.56, 1.97 and 1.98, the attention of the Patent and Trademark Office is hereby directed to the documents listed on the attached form PTO-1449. It is respectfully requested that the documents be expressly considered during the prosecution of this application, and that the documents be made of record therein and appear among the "References Cited" on any patent to issue therefrom. Copies of any cited U.S. Patents and U.S. Patent Publications are not being submitted in accordance with 37 CFR 1.98(a)(2)(i).

This Information Disclosure Statement is being filed within three months of the U.S. filing date OR before the mailing date of a first Office Action on the merits. No certification or fee is required.

In accordance with 37 C.F.R. § 1.97(g) and (h), the filing of this IDS should not be construed as a representation that a search had been made or that information cited is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56 (b), or that any cited document listed or attached is (or constitutes) prior art. Unless otherwise indicated, the date of

publication indicated for an item is taken from the face of the item, and Applicant reserves the right to prove that the date of publication is in fact different.

The references listed on Sheet 1 of the attached PTO-1449 Forms were cited in a patentability investigation and/or a corresponding foreign or PCT application relating to the above-referenced application. The remaining references are from potentially related patent applications, and possibly other sources.

No fee is believed to be required; however, the Commissioner is authorized to charge any deficiency in any fees pursuant to 37 CFR § 1.17 associated with this communication and to credit any excess payment to Deposit Account No. 08-0219.

Respectfully submitted,

WILMER CUTLER PICKERING HALE AND DORR LLP



Scott M. Alter  
Registration No. 32,879

1455 Pennsylvania Avenue, NW  
Washington, DC 20004

TEL 202.942.8400 SMA/lrm

FAX 202.942.8484

Date: 6/16/04



<b>INFORMATION DISCLOSURE CITATION IN AN APPLICATION (PTO-1449)</b>				ATTY. DOCKET NO. 007734 FPS/MMCS/APC		SERIAL NO. 10/665,165			
				APPLICANT Joseph Young J. PAIK					
				FILING DATE September 18, 2003				GROUP	
<b>U.S. PATENT DOCUMENTS</b>									
EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE			
	3,205,485	09/07/65	Noltingk			10/21/60			
	3,229,198	01/11/66	Libby			09/28/62			
	3,767,900	10/23/73	Chao et al.			06/23/71			
	3,920,965	11/18/75	Sohrwardy			03/04/74			
	4,000,458	12/28/76	Miller et al.			08/21/75			
	4,207,520	06/10/80	Flora et al.			04/06/78			
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EXAMINER				DATE CONSIDERED					

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U.S. PATENT DOCUMENTS							
EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE	
	5,270,222	12/14/93	Moslehi			12/31/90	
	5,283,141	02/01/94	Yoon et al.			03/05/92	
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EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE			
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	5,553,195	09/03/96	Meijer			09/29/94			
	5,586,039	12/17/96	Hirsch et al.			02/27/95			
	5,599,423	02/04/97	Parker et al.			06/30/95			
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U.S. PATENT DOCUMENTS							
EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE	
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	5,754,297	05/19/98	Nulman			04/14/97	
	5,761,064	06/02/98	La et al.			10/06/95	
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	5,787,021	07/28/98	Samaha			12/18/95	
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	5,808,303	09/15/98	Schlagheck et al.			01/29/97	
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	5,910,011	06/08/99	Cruse			05/12/97	
	5,910,846	06/08/99	Sandhu			08/19/97	
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				<b>FILING DATE</b> September 18, 2003		<b>GROUP</b>	
<b>U.S. PATENT DOCUMENTS</b>							
EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE	
	5,912,678	06/15/99	Saxena et al.			04/14/97	
	5,916,016	06/29/99	Bothra			10/23/97	
	5,923,553	07/13/99	Yi			10/05/96	
	5,926,690	07/20/99	Toprac et al.			05/28/97	
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	5,961,369	10/05/99	Bartels et al.			06/04/98	
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	6,111,634	08/29/00	Pecen et al.			05/28/97	
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EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE			
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	6,136,163	10/24/00	Cheung et al.			03/05/99			
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				APPLICANT Joseph Young J. PAIK			
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	09/363,966	07/29/99	Arackaparambil et al.	Computer Integrated Manufacturing Techniques			
	09/469,227	12/22/99	Somekh et al.	Multi-Tool Control System, Method and Medium			
	09/619,044	07/19/00	Yuan	System and Method of Exporting or Importing Object Data in a Manufacturing Execution System			
	09/637,620	08/11/00	Chi et al.	Generic Interface Builder			
	09/656,031	09/06/00	Chi et al.	Dispatching Component for Associating Manufacturing Facility Service Requestors with Service Providers			
	09/655,542	09/06/00	Yuan	System, Method and Medium for Defining Palettes to Transform an Application Program Interface for a Service			
	09/725,908	11/30/00	Chi et al.	Dynamic Subject Information Generation in Message Services of Distributed Object Systems			
	09/800,980	03/08/01	Hawkins et al.	Dynamic and Extensible Task Guide			
	09/811,667	03/20/01	Yuan et al.	Fault Tolerant and Automated Computer Software Workflow			
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	09/928,473	08/14/01	Koh	Tool Services Layer for Providing Tool Service Functions in Conjunction with Tool Functions			
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	09/943,955	08/31/01	Shanmugasundram et al.	Feedback Control of a Chemical Mechanical Polishing Device Providing Manipulation of Removal Rate Profiles			
	09/998,372	11/30/01	Paik	Control of Chemical Mechanical Polishing Pad Conditioner Directional Velocity to Improve Pad Life			
	09/998,384	11/30/01	Paik	Feedforward and Feedback Control for Conditioning of Chemical Mechanical Polishing Pad			
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	10/084,092	02/28/02	Arackaparambil et al.	Computer Integrated Manufacturing Techniques			
	10/100,184	03/19/02	Al-Bayati et al.	Method, System and Medium for Controlling Semiconductor Wafer Processes Using Critical Dimension Measurements			
	10/135,405	05/01/02	Reiss et al.	Integration of Fault Detection with Run-to-Run Control			
	10/135,451	05/01/02	Shanmugasundram et al.	Dynamic Metrology Schemes and Sampling Schemes for Advanced Process Control in Semiconductor Processing			
	10/172,977	06/18/02	Shanmugasundram et al.	Method, System and Medium for Process Control for the Matching of Tools, Chambers and/or Other Semiconductor-Related Entities			
	10/173,108	06/18/02	Shanmugasundram et al.	Integrating Tool, Module, and Fab Level Control			
	10/174,370	06/18/02	Shanmugasundram et al.	Feedback Control of Plasma-Enhanced Chemical Vapor Deposition Processes			
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	10/393,531	03/21/03	Shanmugasundram et al.	Copper Wiring Module Control			
	10/632,107	08/01/03	Schwarm et al.	Method, System, and Medium for Handling Misrepresentative Metrology Data Within an Advanced Process Control System			
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FOREIGN PATENT DOCUMENTS							
EXAMINER'S INITIALS	PATENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						Yes	No
	61-66104	04/04/86	Japan			X	
	61-171147	08/01/86	Japan			X	
	01-283934	11/15/89	Japan			X	
	0 397 924 A1	11/22/90	Europe			X	
	2,050,247	08/29/91	Canada			X	
	2,165,847	08/29/91	Canada			X	
	2,194,855	08/29/91	Canada			X	
	3-202710	09/04/91	Japan			X	
	05-151231	06/18/93	Japan			X	
	05-216896	08/27/93	Japan			X	
	05-266029	10/15/93	Japan			X	
	06-110894	04/22/94	Japan			X	
	06-176994	06/24/94	Japan			X	
	06-184434	07/05/94	Japan			X	
	06-252236	09/09/94	Japan			X	
	06-260380	09/16/94	Japan			X	
	EP 0 621 522 A2	10/26/94	Europe			X	
	WO 95/34866	12/21/95	WO			X	
	8-23166	01/23/96	Japan			X	
	08-50161	02/20/96	Japan			X	
	08-149583	06/07/96	Japan			X	
	08-304023	11/22/96	Japan			X	
	EP 0 747 795 A2	12/11/96	Europe			X	
	09-34535	02/07/97	Japan			X	
	9-246547	09/19/97	Japan			X	
	WO 98/05066	02/05/98	WO			X	
	10-34522	02/10/98	Japan			X	
	10-173029	06/26/98	Japan			X	
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						Yes	No
	EP 0 869 652 A2	10/07/98	Europe			X	
	WO 98/45090	10/15/98	WO			X	
	EP 0 877 308 A2	11/11/98	Europe			X	
	EP 0 881 040 A2	12/02/98	Europe			X	
	EP 0 895 145 A1	02/03/99	Europe			X	
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	11-126816	05/11/99	Japan			X	
	11-135601	05/21/99	Japan			X	
	WO 99/25520	05/27/99	WO			X	
	EP 0 932 194 A1	07/28/99	Europe			X	
	WO 99/59200	11/18/99	WO			X	
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						Yes	No
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	WO 01/25865 A1	04/12/01	WO			X	
	EP 1 092 505 A2	04/18/01	Europe			X	
	WO 01/33277 A1	05/10/01	WO			X	
	WO 01/33501 A1	05/10/01	WO			X	
	434103	05/16/01	Taiwan			X	
	436383B	05/28/01	Taiwan			X	
	WO 01/52055 A3	07/19/01	WO			X	
	WO 01/52319 A1	07/19/01	WO			X	
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	WO 02/31613 A2	04/18/02	WO			X	
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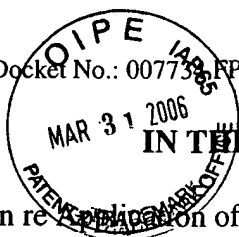


**Wilmer Cutler Pickering Hale and Dorr LLP**  
**1455 Pennsylvania Avenue, NW**  
**Washington, DC 20004**  
**202.942.8400**

Applicant(s): **Joseph Young J. PAIK** Application No.: **10/665,165** 107262.179 US2  
Filing Date: **September 18, 2003** Atty Docket No.: **007734 FPS/MMCS/APC** SMA/lrm  
Entitled: **Feedback Control of a Chemical Mechanical Polishing Process for Multi-Layered Films**

RECEIPT IS ACKNOWLEDGED FOR THE FOLLOWING:

- [X] Supplemental Information Disclosure Statement and 4 PTO-1449 Forms
- [X] 26 References



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

Joseph Young J. PAIK

Serial No. 10/665,165

Filed: September 18, 2003

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:  
: Group Art Unit:  
:  
: Examiner:

For: FEEDBACK CONTROL OF A CHEMICAL MECHANICAL POLISHING PROCESS  
FOR MULTI-LAYERED FILMS

**SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT**

Honorable Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In accordance with the provisions of 37 C.F.R. 1.56, 1.97 and 1.98, the attention of the Patent and Trademark Office is hereby directed to the documents listed on the attached form PTO-1449. It is respectfully requested that the documents be expressly considered during the prosecution of this application, and that the documents be made of record therein and appear among the "References Cited" on any patent to issue therefrom. Copies of any cited U.S. Patents and U.S. Patent Publications are not being submitted in accordance with 37 CFR 1.98(a)(2)(i).

This Information Disclosure Statement is being filed within three months of the U.S. filing date OR before the mailing date of a first Office Action on the merits. No certification or fee is required.

In accordance with 37 C.F.R. § 1.97(g) and (h), the filing of this IDS should not be construed as a representation that a search had been made or that information cited is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56 (b), or that any cited document listed or attached is (or constitutes) prior art. Unless otherwise indicated, the date of

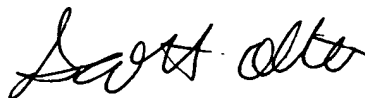
**Serial No. 10/665,165**

publication indicated for an item is taken from the face of the item, and Applicant reserves the right to prove that the date of publication is in fact different.

No fee is believed to be required; however, the Commissioner is authorized to charge any deficiency in any fees pursuant to 37 CFR § 1.17 associated with this communication and to credit any excess payment to Deposit Account No. 08-0219.

Respectfully submitted,

WILMER CUTLER PICKERING HALE AND DORR LLP



Scott M. Alter

Registration No. 32,879

1455 Pennsylvania Avenue, NW

Washington, DC 20004

TEL 202.942.8428 SMA/lrm

FAX 202.942.8484

Date: 8/11/04



<b>INFORMATION DISCLOSURE</b> <b>CITATION IN AN</b> <b>APPLICATION</b> <b>(PTO-1449)</b>				ATTY. DOCKET NO. 007734 FPS/MMCS/APC		SERIAL NO. 10/665,165	
				APPLICANT Joseph Young J. PAIK			
				FILING DATE September 18, 2003		GROUP	
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<b>INFORMATION DISCLOSURE CITATION IN AN APPLICATION (PTO-1449)</b>			ATTY. DOCKET NO. 007734 FPS/MMCS/APC		SERIAL NO. 10/665,165	
			APPLICANT Joseph Young J. PAIK			
			FILING DATE September 18, 2003		GROUP	
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<b>FOREIGN PATENT DOCUMENTS</b>							
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